

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

COMPLETE LISTING OF THE CLAIMS:

Claims 1-24 : (Canceled)

Claim 25 : (New) A method of transmitting information from a start node through a plurality of nodes to a target node in a wavelength division multiplex optical communications network, each node including a wavelength selective optical cross-connect, the method comprising the steps of:

configuring the cross-connect at each of the start node and the target node with a plurality of switching matrices for switching wavelength channels, each switching matrix being operative for switching a wavelength channel of only a single wavelength, each single wavelength channel being switchable by only a single switching matrix;

applying two wavelength channels having two wavelengths that are different, but modulated with the same information, to different respective switching matrices of the cross-connect at the start node;

transmitting the two applied wavelength channels with the different wavelengths via the plurality of nodes passing through different respective switching matrices of the target node; and

extracting the two transmitted wavelength channels from different respective switching matrices of the cross-connect at the target node.

Claim 26 : (New) The method according to claim 25, and keeping the two wavelengths of the two wavelength channels fixed during transmission between the start node and the target node.

Claim 27 : (New) The method according to claim 25, and modifying the wavelength of one of the two wavelength channels at an intermediate node between the start node and the target node.

Claim 28 : (New) The method according to claim 25, and jointly defining the paths of the two wavelength channels by a central network controller operative for choosing the two different wavelengths for transmission between a last intermediate node and the target node.

Claim 29 : (New) The method according to claim 27, and dividing the wavelengths transmissible in the network into at least two groups, and selecting the wavelengths of the two wavelength channels from different ones of the groups, each wavelength modification of one of the two wavelength channels at an intermediate node occurring between the wavelengths of a same group.

Claim 30 : (New) The method according to claim 25, wherein the transmitting step is performed by transmitting the two applied wavelength channels with the different wavelengths via different paths.